CERVICAL SCREENING IN NORTH ANTRIM

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SINCE the cytology service was begun in this area cervical smears have been taken routinely at postnatal and gynaecological clinics. Positive smears thus obtained have been purposely excluded from the present series which refers only to asymptomatic women. Initial requests to practitioners to refer such patients met with a very disappointing response and it was decided to begin an organised programme, the purposes of which were threefold.

(a) For the early detection of malignant and premalignant disease of the uterine cervix and to gain information about its incidence in asymptomatic women in the community.

(b) To stimulate the interest and enthusiasm of our medical colleagues in general practice, in local authority and family planning clinics, and that of the general public in this aspect of preventative medicine.

(c) To determine the best approach to the task of screening a community for cervical cancer and to highlight some of the problems and difficulties encountered.

At the six months' Obstetric Statistical Review meeting held at the Route Hospital in February, 1965, local practitioners were invited to submit lists of all female patients under their care over the age of 30. (All patients below this age who requested a cervical smear were also accepted.) These patients were sent the following letter inviting them to attend the outpatients department on a Wednesday afternoon to have a cervical smear taken.

Dear Madam,

We are offering to all women in this district over the age of 30 the option of having a test done which, it is hoped, will help in the early detection of diseases of the womb.

Names are being selected in alphabetical order and each week a group will be notified to attend to have this simple test carried out.

Your name is one of those selected this week, and we hope you will co-operate by attending at the Outpatients Department on ..... at .....

Your own doctor knows about this, and if you would like any further information please contact him.

Should the date given coincide with your menstrual period, we will be pleased to see you one week later.

Yours sincerely,

.....

SURNAME ..... CHRISTIAN NAMES.....
ADDRESS .....
..... AGE .....
OWN DOCTOR .....
LAST MONTHLY PERIOD .....
HAVE YOU HAD ANY OPERATIONS ON THE WOMB? (YES or NO) .....
(Please complete the above details and bring this letter with you)

All patients attending the clinic were advised to have the test repeated in 4 years' time, or earlier if they noted any irregular bleeding, discharge, or other gynaecological symptoms.

From the 10th June, 1965, till the 31st March, 1967, letters were sent to 3,003 women requesting them to attend for a cervical smear. 1,682 came to the clinic

in response to this invitation. Of those 1,321 who were not screened the following may be eliminated.

Previous total hysterectomy	36
Left the district	16
Unfit due to arthritis, cardiovascular disease, etc.	8
Recent smear already done elsewhere	17
Deceased	3
Total	80

Thus as far as is known 1,241 women refused the test for no valid reason. Of these, only 4 took the trouble to reply. This gives a total attendance rate of 57.5 per cent.

Four per cent. of the patients were nulliparous, 12 per cent. had one child and 84 per cent. had 2 or more children.

The ages ranged from 20-75 and the age distribution, of those attending, was as follows :

31 (1.8 per cent.) were aged 20-29, 466 (27.6 per cent.) 30-39, 649 (38.5 per cent.) 40-49, 383 (20.7 per cent.) 50-59, 146 (8.5 per cent.) 60-69 and 7 (0.8 per cent.) were aged 70 or over. The highest attendance rates were in the 30-39 and 40-50 age groups.

In the vast majority of cases the cervix was scraped using Ayre's spatula. Considerable technical difficulty was encountered in 10 per cent. of cases due to acute retroversion, vaginal wall prolapse and high multiparity, extreme obesity, senile vaginal stenosis, poor relaxation and in one case, a pelvic tumour displacing the cervix. However, in these cases adequate smears were eventually obtained. Direct cervical scrapes were impossible to obtain in 1 per cent. due to nulliparity and vaginismus and in these pipette specimens were taken from the posterior fornix.

Of the smears 1.2 per cent. were unsuitable for examination and were too scanty, improperly fixed or contaminated with blood. A further 2.2 per cent. showed no endocervical cells. All these were repeated after a carefully worded letter had been sent to the patients concrned.

Associated gynaecological disorders included cervicitis and/or erosion (20 per cent.), uterovaginal prolapse (18 per cent.), cervical polyp (4 per cent.), Bartholin's cyst (3 cases), multiple fibroids (2 cases), ovarian tumour (1 case), and vulval warts (1 case). These cases were referred to the gynaecological clinic for further assessment.

The Results

The cervical smears from the 1,682 women showed malignant cells in 8 cases – an incidence of 4.75 per 1,000. Two of these had frank invasive carcinoma of the cervix. The first, aged 52 and para 12, had had post-menopausal bleeding for 3 months but did not seek advice. She had a stage I squamous carcinoma of the excavating ulcer type which was clinically obvious. The second, aged 49 and para 5, had had no symptoms, but the cervix was friable and bled readily and biopsy showed invasive spuamous carcinoma in relation to the endocervical glands. Both patients were referred for radiotherapy and have so far done well. In these two cases the smears were positive but false negatives occur in 6-10 per cent. of cases

of frank carcinoma which fail to exfoliate cells freely and, in our opinion, it is essential that the examination be carried out by a trained worker who is able to assess the appearance of the cervix and refer clinically suspect cases for biopsy.

In the remaining 6 asymptomatic patients whose smears showed malignant cells the cervix appeared healthy. One was nulliparous and the parity of the others ranged from 1-6. Three were treated by abdominal hysterectomy and 2 (with associated uterovaginal prolapse) by vaginal hysterectomy with preliminary cone biopsy. Their post-operative convalescence and subsequent progress was uneventful. One patient, aged 35 and para 1, was found to be 5 weeks pregnant when admitted for treatment and amputation of the cervix was carried out. She is not yet delivered but her pregnancy has continued normally so far. In all these cases, carcinoma-in-situ was confirmed histologically – in the epithelium of the cervical canal in 3 instances and in relation to the endo cervical glands in 3. In every case the lesion was completely excised. Thus the incidence of carcinoma-in-situ in this series is 3.5 per 1,000.

Eight patients aged 37-50 years had dyskaryotic smears. Two of these showed a marked inflammatory reaction and they received local antibiotics. All these patients are being followed up with repeat smears at six monthly intervals. In 3 cases (one of which received antibiotic treatment) cytology had reverted to normal. In the remaining 5 the appearances are unchanged. Thus the incidence of dysplasia in this series is approximately the same as that of carcinoma-in-situ. This is in agreement with the experience of Mackay (1959) who found that up to 75 per cent. of such lesions regressed. They do not warrant immediate definitive therapy but call for close diagnostic observation.

Other findings were as follows :

Inflammatory changes	14%
Trichomonas vaginalis	10.5%
Monilia	0.6%

Where Trichomonas or monilia infection was detected, a copy of the report was sent to the patient's doctor and treatment recommended.

Discussion

It has been estimated that the 10-year cervical rate for all cases of invasive carcinoma of the cervix is approximately 30 per cent. and despite advances in surgical and radiotherapeutic technique there has been no dramatic improvement in this figure. In the areas in which mass screening has been carried out there has been a marked lowering of the incidence in invasive carcinoma, e.g. in British Columbia there has been a 45 per cent. decline from 1955-1962. (Boyes, Fidler and Lock, 1961) and the incidence has dropped significantly in Edinburgh and Dumfries where there have been the largest campaigns in Scotland (Yule, 1961). No new cases of invasive carcinoma have been seen at the gynaecological outpatients at the Route Hospital in the last year whereas formerly 3 or 4 were encountered annually.

At the beginning of the campaign the attendance rate was 36 per cent. This rose gradually to a peak of 68 per cent. in December, 1965, and fell to 59 per cent. in March, 1966. This may reflect a growing interest and enthusiasm on the part of patients and general practitioners who had to answer numerous and varied

enquiries on the subject. Unfortunately, we are still failing to attract the group of women with the higher incidence of invasive cervical cancer – those who have coitus frequently and from an early age, who are of high parity, do not attend family planning clinics, default from antenatal and postnatal clinics and conceal symptoms of overt malignancy. Pederson (1966) noted that the vast majority of cases of stage II and III carcinoma in his series had never attended screening clinics and Jones (1966) found four positive smears in 100 consecutive cases of criminal abortion in Leeds. The Davis cytopipette was not used in the campaign though it has been suggested that it might be sent to women who refuse scrape smears. However, 16 per cent. of such smears taken by patients themselves are unsatisfactory. The apparatus is costly and postage rates high. In addition, no opportunity is afforded for viewing the cervix.

Though the earliest age at which we encountered a positive smear in this series was 35 there is evidence to suggest that screening should be begun earlier. Kellar et al (1966) found that 37.8 per cent. of pre- and microinvasive carcinoma in asymptomatic women in their series occurred at 35 or younger, and in Aberdeen the detection rate in women of under 35 with more than four pregnancies was higher than in any other age group.

It is hoped that the women who have been screened will be followed up by regular smears. One negative smear confers no permanent immunity. Dunn (1966) found several lesions in women with 2 previous negative screenings to be already in the invasive phase and such explosive lesions can only be detected by repeating smears regularly and at fairly short intervals of 1-2 years. We would also stress that suspicious symptoms and signs must always be investigated by curettage and cervical biopsy where indicated as negative cytology may be returned in cases of frank carcinoma of the cervix and even more so in patients who have carcinoma of the endometrium.

As the diagnosis of carinoma-in-situ must dictate treatment it is not known what percentage becomes invasive and how long this takes. In a proportion of cases it may be a benign lesion. In certain areas treatment of increasing numbers of in-situ lesions has not brought about the drop in incidence of invasive cancer, which might have been expected. Also, there is a disparity between the true incidence of carcinoma-in-situ and that theoretically derived from the known incidence of invasive cancer and there is a much greater familial incidence of carcinoma-in-situ (Anderson, 1959).

These facts however, are not arguments against cytological screening of asymptomatic women. The appearances of the smear in invasive lesions are potentially indistinguishable from those in carcinoma-in-situ which does not progress, and the lesion must always be regarded as of serious import and treated accordingly. Cytological screening also affords an opportunity for inspecting the cervix and is essential for the follow-up of doubtful and treated cases.

Summary

The development of a well women clinic for the cytological screening of a district is described. In the age group 30 and over 57.5 per cent. of the women invited attended and smears from 8 of these showed malignant cells. Two of the 8 cases had invasive carcinoma and in the remaining 6 carcinoma-in-situ was

confirmed histologically. A further 8 smears showed dyskaryosis. Uterovaginal prolapse was found in 18 per cent. and cervicitis or erosion in 20 per cent.

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